Instructions for Records Spreadsheet

Tracking the Usage of Chemicals for Regulatory Compliance or Internal Record Keeping

Introduction

RECORDS is a spreadsheet designed as a tool to track the usage of chemicals in mixtures for regulatory compliance or a company's own internal record keeping system. The user enters mixture usage data (in gallons) on either a daily or monthly basis. The spreadsheet will calculate the total monthly usage (in pounds) of the chemicals contained in the mixtures for a rolling twelve month window.

Although RECORDS can be used as a stand-alone program for chemical use tracking, manufacturers with coating operations will find it particularly useful in conjunction with RUNVOC. RUNVOC is a computer program developed by the Office of Technical Assistance to help manufacturers easily and accurately determine the pounds of VOC per gallon of solids applied. This program performs the VOC calculation and provides all other information required to complete an SFP-1 form required by the Massachusetts Department of Environmental Protection to comply with air permit regulations. In addition, RUNVOC can be used before switching to a new coating formulation to determine whether the new coating will meet the VOC emission standards for compliance.

To use RECORDS, the user must have some familiarity with Windows-based spreadsheet programs. You can obtain a copy of RECORDS from the Office of Technical Assistance website.

Hardware/Software Requirements

RECORDS is available in Microsoft Excel version 4.0 or higher. It is important that the user have some familiarity with using a spreadsheet program. Although the size of the RECORDS file starts out at less than 300K, it can grow much larger as data is added. The working copy should be saved and operated from the hard drive.

Getting Started

Before you begin recording data you need to setup the spreadsheet. This is very simple:

1. Go to the Chemicals worksheet (if you are not already viewing it).
2. Change the starting year (if necessary) using the up & down arrows and select the starting month along with "usage by" (month or day) from the popup lists. Please note that the decision to keep daily or monthly records should be based largely upon the applicable regulatory requirements.
3. Click on the Initialize Months button to set up the Usages sheet with 12 months worth of space to enter your data. If you chose to record daily then this process may take a few minutes.
   Once this is done several things will happen:
   a) The Initialize Months button will disppear.
   b) The starting month, starting year, and "usage by" fields on the Chemicals sheet will be locked (not gray) and can no longer be changed.
   c) 3 other buttons will become enabled: New Month (on the Usages sheet), Add More Mixtures, Add More Chemicals.

After this initial setup has been done you will use the New Month button to add additional space (beyond the initial 12 months of space allocated) for data entry. This button will only allow you to add and enter data for one month at a time. If you have not entered data for the last month it will not add space for a new month. On the rare occasion that you need to get around this, check the Tips and Tricks section.

The reason for this behavior is that the **Results** sheet only shows the total chemical use for the LAST 12 months entered. If you were to add space for future data entry, you would be dropping those earlier months prematurely from the 12 month rolling window.

Description of the 4 Worksheets

SHEET 1: CHEMICALS - Names of the mixtures and chemicals to be tracked.

There should not be any empty spaces between the mixture names. Mixtures can be any chemical product or raw material used at the facility. Examples include paints, inks, pellets, and cleaning solvents. The user then enters the chemical components of the mixtures to be tracked in the Chemicals table. Many mixtures may contain more than one chemical and may have several chemical components in common with other mixtures.

IMPORTANT NOTE: There is no direct relationship between the mixtures table and the chemicals table. These are simply a list of all the mixtures you want to track and a list of the chemical components of all the mixtures. Therefore, the chemical components do not have to be listed in any particular order, do not have to be entered in the same row as the mixture in which they are contained, and should be entered only once, even if they are components of more than one mixture. If the CAS# is entered in the chemicals table, it must be entered in the same row as the chemical name to which it corresponds.

To track total VOC usage enter "Total VOCs" in the chemicals table and leave the CAS # blank. Total VOC usage may be tracked either in addition to or in lieu of tracking individual volatile chemicals (e.g. toluene, xylene, etc.).

Initially the spreadsheet has space allocated for up to 20 mixtures and 5 chemicals. If you need to record more mixtures, click on the Add More Mixtures button to add space for some additional mixtures. Recording more chemicals is equally as easy to do. The 2 text boxes above both buttons are a convenience to allow you to add as many mixtures or chemicals at a time as you want (within the displayed range to the right).

Once the mixtures and chemicals to be tracked have been entered on the **Chemicals** sheet, they should NOT BE REARRANGED OR DELETED. The mixtures and chemicals listed on this sheet establish the row and column headings for subsequent sheets. If the original order of the mixtures and chemicals is changed after the properties and usage data has been entered, then the properties and usages will be listed under the wrong headings and will cause errors in the **Results** sheet.

SHEET 2: PROPERTIES - Density of each mixture in pounds per gallon as well as the percent by weight of each chemical in each mixture.

If a mixture does not contain a particular chemical, the percent by weight cell may be left blank or a zero may be entered. The density of the mixture and the percent by weight of each chemical are usually indicated on Material Safety Data Sheets (MSDS).
Paint mixtures may be tracked either "as applied" (i.e. including resin, catalyst and thinner together) or "as purchased" (resin, catalyst and thinner separate) depending on applicable regulatory requirements. To track the "as applied" usage, be sure to enter the density of the "as applied" coating and the % by weight of each chemical in the mixture "as applied." These values may be obtained from OTA's program RUNVOC. Please note that to track total VOCs of mixtures "as applied," the % by weight of total VOCs must be calculated by adding the % by weight of each volatile chemical from the RUNVOC output.

IMPORTANT NOTE: If you have chosen to track "Total VOCs" as well as individual VOCs please be aware that on the **Properties** sheet each VOC will actually be accounted for twice -- once as part of the "Total VOCs" and once as an individual VOC. This will not result in the total usages being doubled; rather it will result in usages being expressed in two ways (i.e. as a total and as a breakdown of the total).

SHEET 3: USAGES - Usage data (in gallons) for the mixtures to be tracked either daily or monthly.

When recording daily, data cells may be left blank for all days prior to the start date.

SHEET 4: RESULTS - Rolling twelve month totals for each chemical from all mixtures (in pounds).

Tips and Tricks

- If you actually have a month with zero usage for all mixtures and need to add a new month after it for data entry, you can trick RECORDS by putting a 1 (or any other non-zero number) into one of the columns for the last month, click on the New Month button and then go back and delete the number you put in.
- At some point you may find it desireable to eliminate some of the earlier months of data after you have been using this tool for a few years. This should not be necessary, but you may want to do this simply for the sake of neatness.
    a) Save a copy of the file somewhere safe.
    b) You will need to keep at least 12 months worth of data entry space. This means that if (for example) you want to keep just the last 2 months of data, then you must add 10 more months with the New Month button (see the tip above).
    c) Unprotect the **Usages** sheet.
    d) Select and delete all the rows for the months you want to eliminate.
    IMPORTANT NOTE: If you were recording daily make sure you delete ALL the rows for each month.
    e) Protect the **Usages** sheet.
- If you had started recording daily and eventually found that you only needed to record monthly, then just put the total figures in the last day of the month. Since the calculated totals (the row of non-gray cells at the bottom of the month) should be the same as the last day, you can use this as a free double check to make sure that you didn't accidently enter something else above this in the same month.
- If you had started recording monthly and eventually found that you needed to record daily, then:
    a. Get a brand new copy of RECORDS.
    b. Do the setup on this copy with "usage by" set to "Day".
    c. If your original spreadsheet has more than the initial 20 mixtures (or 5 chemicals) then use the corresponding buttons (on the **Chemicals** sheet) to add extra space to accomodate the additional mixtures (or chemicals).
    d. Copy & paste the mixture names and chemical names from the original spreadsheet into the new spreadsheet.
    e. Copy & paste the mixture densities and the chemical weights within the mixtures (from the **Properties** sheet) into the new spreadsheet.
    f. For the monthly figures you have already entered: copy & paste each monthly row into the last day of the corresponding month of the new spreadsheet.

IMPORTANT NOTE: Make sure that when you paste you are doing so to the same cells as the original spreadsheet or you might wind up throwing off the results.